of 40 journals with Cohn's centimetre square were as follows:—

Medical journals.	Number of lines in Cohn's centimetre square.
35	2
2	2 in some paragraphs, 3 in others.
1	3
1	2 in leading articles, 3 in original papers, 4 in smallest type.
1	3 in leading articles and original papers, 4 in smallest type.

Thus only three out of 40 have a defective type as regards size; but two of these, the two journals last mentioned, have the largest circulation, and I think most readers, who are over 40 years of age, sometimes wish the type could be made a little larger.

There are many other points of importance in the printing of books which space does not permit to be considered in this article. But the figures which I have given show clearly that, apart from other defects, the size of the type and the distance between the lines in a large number of school books are too small if the minimum of the best authors be accepted. Apart from actual measurements, in many of the school books examined, it was evident from simple inspection of a printed page that the type was too small to be read for any length of time without great eye strain.

Since so much attention is now being directed to school hygiene, and since we have in Cohn's square-centimetre test such an easy method of detecting the two most important defects of type (size of letters and distance of lines), it is to be hoped that the printing of school books will receive more consideration in the future. If those who have the supervision of the education of school children and students demanded that the type of school books should be satisfactory the risks of eye strain and myopia would be diminished nd the study of many books would be made easier.

Manchester.

AGORAPHOBIA—A REMEDY.

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AGORAPHOBIA, or fear of open spaces, is, in my experience, not nearly as common a malady as its antithesis, claustrophobia. Both are curious, and somewhat anomalous, states of mind, in which an aversion, which is known and admitted by the subject of it to be irrational and absurd, nevertheless dominates conduct, prompts the execution of irrational acts, and renders certain rational and desirable acts impossible.

If I had to speculate on the origin of these curious and spurious instincts, for such they may be termed, I should assign them to the revival of instincts which existed in full force, and had great biological value, in our remote ancestry, but which in most of us have long been obsolete. When our ancestors were arboreal in habit, this habit was their salvation from extinction. Feeble in body, destitute of weapons and of defensive armour, devoid of means of concealment, their safety from carnivorous foes lay in the agility with which they could climb out of reach, and in the accuracy with which they could leap from bough to bough and from tree to tree. Whenever they descended to the ground, they were in danger. It is on the ground that the greater carnivora pursue their prey; and, adapted as our ancestors were to arboreal life, their progress on open ground was undoubtedly less rapid than among the tree tops, and most probably less rapid than that of their principal foes. Among the tree tops they were secure. There, no enemy could vie with them in activity, or hope to overtake them; but on the ground they were at a disadvantage. On the flat, they had no chance against the spring of the panther or the speed and wind of the wolf; but once let them attain the security of the forest, and they could grin and chatter with contempt at their helpless enemies below. The farther they ventured from their secure retreat, the greater the peril they were in; the nearer their refuge, the more complete their sense of security. Since instincts, using the term in the sense of mental cravings, become adapted to modes of life, which, in turn, they dictate, we may be sure that, in the arboreal stage of their existence, our ancestors had a very strong instinctive aversion to any extended excursion from their place of security and refuge. Near to trees, they were in safety; far from trees, they were in continual danger, and therefore in continual uneasiness. In such a situation they had an abiding and well-founded dread and sense of impending danger.

This is the state of mind which, as it seems to me, is reproduced in similar circumstances in agoraphobia. The craving of the subject of this malady is to be near, not trees necessarily, it is true, but near to some tall vertical structure. Away from such a structure, he has just the feeling of dread, of impending danger, of imminent disaster, of something dreadful about to happen, that a man would have who was walking through a jungle infested by tigers, or that a child has when alone in the dark. And this is just such a feeling as we may suppose our arboreal ancestors had when they were out of reach of their natural habitat. I have seen a woman affected with agoraphobia get from one side of a court to the other by not only going round by the wall, and touching it all the way, but squeezing herself up against it, and clutching at the bare surface. Sufferers from this malady cannot cross an open space. They cannot venture more than a step or two from some vertical surface. They feel no uneasiness in a colonnade, open all around them though it be. Their reason tells them that their dread is groundless, but reason is powerless against instinct, and an imperious instinct shouts danger in their ears.

The opposite malady—claustrophobia—seems to me to reproduce a state of affairs of much later occurrence in our racial history. When arboreal habits at length began to be abandoned, and our anthropoid ancestors began to shelter themselves in hollow trees, in caves, and holes in the ground, there must often have been a conflict between the immeasurably old, primitive habit of roosting under the open sky, and the modern innovation of taking shelter from the weather. The sense of confinement must have been very irksome. We may be sure that there was no sudden revolution in the mode of life. The new habit was adopted very gradually. Only in some very violent storm would the first indwellers creep into a hole for shelter, and they would soon find their circumscribed quarters intolerable, and brave the elements as soon as the weather began to moderate. Perhaps the new instinct was first implanted in the young, by the parents bestowing their tender offspring in holes during their own absence or when cold and rain became severe. It is not easy to teach an old dog new tricks; but a young wild rabbit or squirrel, taken at a very early age from the nest, never acquires the untameable wildness that is so conspicuous a feature in the character of the old. In any case, the habit of taking shelter in more or less closed spaces was a habit of slow and gradual acquirement; and we may be sure that it was not acquired without many a relapse and many a backsliding. We can almost hear the jeers and scoffs of the stout old Tory anthropoids at the effeminacy of their degenerate juniors, who should seek a shelter that their forefathers would have scorned. The habit has not yet been fully acquired by all our race, for we see, even at this late day, many persons of human status to whom the shelter of a roof is abhorrent, and who prefer, in the worst of weather, to lie out under a hedgeside rather than submit to the restraint of roof and walls.

It is to the imperfect acquisition of this later instinct of seeking shelter in confined spaces; or rather it is to the reassertion over it of the more remote and earlier instinct of craving for the open sky, and irksomeness of confinement, that the malady of claustrophobia seems to me to be due. In the subject of this malady is revived in its original strength that craving for open sky and open air, for possibility of movement in every direction, which were ingrained in our ancestors by their free arboreal lives; and which were overcome with such difficulty when first they descended to inhabit *terra firma*. Like the sufferer from agoraphobia, he who suffers from claustrophobia experiences the revival of an ancestral instinct that has been obsolete for untold generations, but that has been lost more recently than that revived in agoraphobia. Since it existed down to a later date; since it has been more recently lost, it is more easily revived; and this is the reason, I think, that claustrophobia is so much less rare than agoraphobia.

Whatever their origin, the two maladies are equally inveterate. They are refractory to remedies. They are recalcitrant to treatment. They endure for years, and often for a lifetime. Hence it may be useful to place on record a

case in which a cure has been effected, even though the remedy that proved so efficient is open to certain objections and is not applicable to every case.

A tall, spare man, with an expression dejected, undecided and ineffectual, came to me complaining of being "nervous and thoroughly run down." He could not concentrate his mind on his work; was always thinking of something else than his duty; his mind was confused; and he was in constant dread of he knew not what. He felt as if some great evil were impending over him; fancied he must be going to die; could not keep himself calm and collected, but was always agitated, nervous, and apprehensive. With the exception of constipation, sleeplessness, and occasional headaches, his bodily health was good. In addition to these troubles, he had very definite agoraphobia. In going to and from his office, he would sneak through all the alleys, courts, lanes, and narrow streets he could make use of. When he came on a wide street, he was seized with panic,—reasonless, groundless panic, that he knew to be reasonless and groundless. He felt as if something awful were going to happen. He could not walk along a wide street; he had to take a 'bus, or, if the street were not very wide, he might get through it by holding on to a cart. If he did not do this, he was sure he would fall down. He was afraid he would scream out, and make a scene. Bridges were quite impassable to him. If he were compelled to go over a bridge, he had to get into a 'bus some time before he came to it, and keep his eyes shut as he went over it.

Under ordinary remedies, he improved very much, so that, at the end of a week, he had the best night he had had for years. He gradually recovered his powers of concentration; became able to work efficiently; lost his headaches; ceased to feel the dread of impending evil; and was able to walk with comfort in a moderately wide street. He continued to improve, until at the end of two months, he was well, and had lost all his troubles except his agoraphobia, and that was diminished. I told him that this was a matter for which little could be done; that it was in its nature an enduring malady; that though it had somewhat improved, I feared I could do no more for it; that he must contrive to bear it as well as he could, and hope that in time it would wear away; and I advised him that he need not see me again unless he had a relapse of his other troubles.

I saw him no more for nearly four months, when he entered my consulting-room with an expression of face that puzzled me much. I had told him to return no more unless he relapsed, lost his power of concentrating his mind upon his work, or had a return of his accessions of dread and feelings of impending evil. But it was obvious at a glance that he came back for no such reason. His face, that used to be overcast with gloom and anxiety, was tranquil, placid, and I thought I detected even a lurking look of triumph. His irresolute step was become firm; his manner decided; and his whole being seemed changed and strengthened.

I expressed my regret that he had had to come back to me, and thereupon his face fell. He said he had had a dreadful shock; a terrible trouble. His daughter had run away from home, and joined a lover. It had been a frightful shock to himself and his wife. Still, he did not look shocked. On the contrary, he appeared complacent and contented. Then the murder came out. "What I have come for, is not to consult you about my health, but to tell you that this shock has completely cured me. I have not the slightest difficulty in going anywhere I like. I can go through wide streets, over the bridges, across Trafalgar Square, and even into the parks. I can go anywhere and do anything just like anyone else; and this recovery came to me suddenly, immediately after I had this dreadful shock. I thought it would interest you to know."

It certainly did. It is the only case of agoraphobia that I have ever known to recover completely, and the manner of the cure was sufficiently striking. Having congratulated him duly, I proceeded to inquire into the circumstances of the elopement, and learnt that the girl had fled to the house of her lover's parents, in consequence of the persistent opposition of her own parents to the match; that the young couple were now safely married; and that the objection to the match arose from no moral obliquity, inequality of station, or deficiency of means on the part of the son-in-law, but merely from a want of congeniality between him and the bride's parents. Having extracted this information, I ventured to point out that as it was the daughter, and not the parents, who had married the young man, the objection was not a fatal one, and I took on myself to advise the bride's parents to be reconciled to their daughter and her husband, against whom there appeared to be no reasonable objection. After a little persuasion, they adopted this view, and went away without a cloud on their happiness.

As already stated, the therapeutic agent that proved so successful in relieving this patient of his troublesome malady is one that can scarcely be used as a routine mode of treatment. The next patient that consults me for agoraphobia, I may be able to cure by running away with his daughter; but the mode of treatment has inevitable limitations. Supposing the first dose, if one may so call it, to be unsuccessful, would the therapeutist be justified in repeating it, and if so, how often? Suppose the patient has but one daughter, whose abduction is found inefficacious, would one be justified, as a further means of treatment, in running away with his wife? Fortunately, agoraphobia is one of the less frequent maladies that afflict mankind. Were it frequent, it is evident that the house of the specialist who should treat it on these lines might become inconveniently crowded. There are other difficulties, moreover. Not every patient who suffers from agoraphobia has a marriageable daughter. Some of them are themselves unmarried. In such cases, ought one to advise them to marry, with the prospect of having some day a daughter, who should in time become marriageable, and competent to take part in the treatment? Such a course would be vitiated by delay and uncertainty. At the best, it would be years before the effective part of the treatment could be put in action; and at the worst, the unfortunate patient might be tantalised by the appearance of an unbroken series of sons. It is to be expected that such a patient might lose patience, and refuse to continue the treatment beyond a certain number of decimals. In addition to these objections, which are not captious or trivial, I can see the possibility of others. It is not every patient who would suffer a terrible shock on hearing that his daughter had married a very eligible young man, even though the marriage were without the consent of the parent. Finally, it is clear that there are persons to whom this mode of treatment could not possibly be applied. Some of the sufferers from agoraphobia are old maids.

Of course, filial abduction is not the only way of administering such a shock as may prove curative. It is open, as we have seen, to various objections, and it would be advisable to find a method that should be more generally applicable, and attended with fewer inconveniences, both to the patient and his medical attendant. It is probable that if the patient were to discover suddenly that his house was on fire, or that he had lost his fortune, the resulting shock would be quite as severe, and therefore equally efficacious. There are, however, legal difficulties in the way of setting fire to a man's house, or robbing him of his fortune, even though these acts are done with the praiseworthy motive of curing him of agoraphobia; and it is to be remembered that the curative effect is by no means certain. We have only a single case to go upon. Short of these methods, which may be regarded as somewhat heroic, there are other modes of administering shocks, of minor intensity, it is true, and therefore less likely to be radically curative; but still, a mitigated trouble might produce an amelioration of the symptoms, even if it did not effect a complete cure. The patient might be upset out of a boat; he might be compelled to cross from the Mansion House to the Bank at noonday; he might have a dose of liquozone; he might be taken for a ride in a motor 'bus; or perhaps best of all, he might be compelled to dine at the Hotel Magnificent, and be presented with the bill. If the shock thus inflicted should prove inefficacious, it might be safely assumed that further treatment on these lines would give no result.

Seriously, the event of the case above related, if it do not place in our hands any very efficacious curative agent, does at least teach us that the malady is not as deep-seated as its long continuance and recalcitrance to treatment might lead us to infer. In these respects, as well as in its sudden recovery upon a great emotional shock, it betrays an affinity to hysteria, and may probably be found amenable to treatment by imperative suggestion (by which I do not mean hypnotic suggestion), such as is sometimes so efficacious in hysterical maladies.

Wimpole-street, W.

A CASE OF

CEREBRAL TUMOUR, GIVING RISE TO JACKSONIAN EPILEPSY AND, AT A LATER STAGE, COMA;

OPERATION; REMOVAL OF TUMOUR; RECOVERY.

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THE patient in the following case was a man 27 years of age. He was admitted to a surgical ward in Glasgow Royal Infirmary on July 1st, 1906, having been transferred from the medical wards in charge of Dr. David C. McVail, where he had been under treatment since Dec. 28th, 1905. The history supplied from the medical side of the infirmary was to the effect that he had first come under notice in 1904, suffering from a large sore over the sternum, which yielded to antisyphilitic treatment. He remained well after this until March, 1905, when he began to suffer from headaches which soon became constant and severe, the pain being particularly located over the vertex. Then giddiness and vomiting began to accompany the pain and would sometimes occur two or three times daily. The first epileptic fit occurred on Dec. 12th, 1905, nearly seven months before his transference to the surgical ward. An aura, consisting of a tingling sensation in the right foot, occurred first, followed almost immediately by contraction of the muscles of the right lower limb. The convulsion then became general and the patient lost consciousness. The fit lasted three minutes and he was weak after it but not dazed. Five similar attacks occurred during the next two weeks and it was then noticed that he suffered from a paresis of the right leg which soon involved the whole right side, with the exception of the face. He was still, however, quite able to move about but dragged the right limb slightly in doing so. The eyesight and hearing were good at this time but it was noticed that his memory was becoming defective. He slept badly.

Early in January the patient had two or three fits, one of which was of an intermittent character and lasted in all some five hours. In at least one fit which he had about this time the aura and also the convulsive movements began in the right arm and not in the leg. From this time onward the fits became less frequent and the headache less severe, but latterly the sickness and vomiting became so frequent that it was deemed advisable to stop the specific treatment which, up to now, had been regularly carried out. Up to June 24th he was able to leave his bed and to look after himself fairly well, but from this date onward his condition became rapidly worse and he was accordingly transferred to the surgical wards under my charge, while acting for Dr. Peter Paterson.

On admission to the surgical wards the patient was found to be in a rather drowsy condition. His pulse was slow (52 per minute) and full and his temperature was subnormal (97° F.). He lay very quiet, never trying to turn or to sit up. When roused, and there was generally some difficulty in rousing him, he took some time before answering a question, and then answered slowly by a monosyllable. "Yes" and "No" were practically the only answers he gave, and sometimes he seemed to have great difficulty in saying "Yes," as, while the lips moved, no answer came. Frequently no answer whatever was given. He never asked for anything. He could move a limb when asked to do so but the right leg was moved with difficulty, chiefly by the trunk muscles, while the right arm was absolutely paralysed and there was right facial paresis. Swallowing was accomplished with difficulty and some degree of choking frequently occurred even with liquids. He could not protrude the tongue. Urine was passed in bed and, in spite of vigorous medicinal treatment, there was absolute constipation. With regard to the eyes, both pupils were sluggish but the left one was dilated and irresponsive save to very strong light. On examination with the ophthalmoscope optic neuritis was found to be very marked over both discs, the left being more markedly affected. Ptosis was marked on the left side. He had no fits for over six weeks prior to his transference to the surgical wards, nor had he any during the few days that he was in the surgical ward prior to operation.

From the foregoing history and symptoms the presence of a tumour in the left motor area, involving principally the leg and arm centres, and giving rise to very considerable pressure, was diagnosed. Two points of difficulty, however, arose. The first was the slight discrepancy between the history of the onset of the fits and the present condition of the limbs. The history stated that, as a rule, the fits began in the leg, whereas the patient could move the leg slightly while he had an absolute paralysis of the arm. The second point was the rapid deterioration in his condition during the previous ten days, a symptom which, it was feared, might point to some more general involvement, possibly œdematous or inflammatory, and not merely to pressure from a well-localised tumour. During the four days prior to operation his condition became distinctly worse even than it was on admission. Thus on the morning of operation he was comatose, his pulse-rate was 48, and his temperature was 96·4°.

The patient having been prepared, save that the bowels could not be got to act, the operation was performed on July 5th. Taking into consideration that the fits were a little variable in their place of origin and that the history of the fits did not tally with the present condition as regards paralysis of the limbs, it was decided to investigate both arm and leg areas. He was accordingly anæsthetised, chloroform being used for the purpose. Only a small quantity was required, six drachms altogether, for an operation lasting some three hours, nearly all of it being used during the first hour. He showed a distinct tendency to stop breathing whenever he was put fully under its influence. An osteoplastic flap, of horseshoe shape and barely two inches in diameter, was raised from the left upper Rolandic area. The bone was first perforated in several places by a drill and the intervening portions were cut through by a Gigli saw; after which, periosteal elevators having been introduced as levers, the base of the bone flap was divided and the flap, consisting of bone, periosteum, and soft tissues of the scalp, was turned back, so that the dura mater was exposed. It was found, however, while this was being done that firm adhesions existed between the dura mater and the bone at the upper part of the flap. The dura mater thus exposed was found to be very tense, so much so that palpation of the underlying structures was practically impossible and pulsation of the brain was absent. It was more resistant toward the vertex, and this portion was covered with the small adhesions which had been divided on removal of the skull.

A crucial incision was next made very carefully over the most prominent portion of the dura mater and immediately the brain matter bulged into the wound. At the same time it was reported that the pulse-rate, which up to now had been about 50, had risen to 60. A little later it rose to 90, then to 110, and finally to 144, changing in character from being hard and full to being very soft and feeble. The brain matter was encouraged to bulge, in the hope that, cerebral pulsation having been now restored, the tumour might be extruded without further manipulation. This, however, did not occur. The brain substance which protruded was very œdematous and finally ruptured, a small quantity of disintegrated brain matter being extruded. Palpation of the actual brain substance confirmed the sensation of firmness toward the vertex and the dura mater was accordingly opened up toward the upper limit of the aperture in the bone.

While this portion of the dura mater was being incised it was observed to be closely adherent to the brain substance by large numbers of small soft adhesions. No evidence of actual tumour being found on the surface a pair of sinus forceps was very carefully inserted downwards through the cortex, slightly opened, and then withdrawn, but no tumour substance presented The little finger was accordingly very carefully inserted along the track of the sinus forceps and at a depth of about an inch came in contact with a rather hard mass lying firmly imbedded in the brain substance. It was hoped that very slight manipulation would serve to dislodge this mass but such proved not to be the case. It was necessary to sweep the little finger carefully all round the tumour, freeing it from adhesions in all directions, before it could be dislodged. In so doing it was found to be adherent by a slight attachment to a second mass which lay more posteriorly. The attachment having been broken, the mass, which was spherical and about one inch in diameter, was gently removed. In like manner the second mass, which was larger and extended both superficially and